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10/786,777	02/25/2004	Daniel Louis Bates	213187/00008	3714

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EXAMINER	
HARRISON, CHANTE E	

ART UNIT	PAPER NUMBER
2628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/786,777	BATES ET AL.	
	Examiner	Art Unit	
	CHANTE HARRISON	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,11 and 13-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,11 and 13-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: Amendment, filed on 5/8/09.

This action is made **FINAL**.

2. Claims 1-5, 11 and 13-29 are pending in the case. Claims 1, 19 and 29 are independent claims and have been amended. Claims 6-10 and 12 are cancelled.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 11-17, 19-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wistendahl, US 2002/0056136 and further in view of Sabat et al., "Cluster-based smoothing for MPEG-based video-on-demand systems", 4/2001, IEEE, p. 339-346.

Independent claim 1, Wistendahl discloses a video capture system (Fig. 3) for capturing a frame of said sequence of video frames video (Para 36, Para 53);

a user interface (Fig. 3) for enabling a user to select the pixel object in said captured frame(Para 36);

a video linking system (Fig. 3 “IDM program”; Para 47, 48) which generates a linked video file that is separate from and not embedded in the sequence of frames (Para 32-35), said linked video file comprising (i) a pixel object file identifying the selected pixel object by frame number and location within the captured video frame and at least one subsequent video frame (Para 32, 33,76), and (ii) a separate data object file that includes information related to the object that corresponds to the selected pixel object, the data object file being linked to the corresponding pixel object file (Fig. 2; Para 33) wherein said linked video file is files are configured to be exportable to a media player (Para 32) so that a location in said sequence of video frames selected by a pointing device during playback (Para 76) of the video frames can be linked with the data object objects when said selected location corresponds to the selected pixel object said pixel objects (abstract; Para 33); and

wherein said video linking system samples said video content using a compression technique (i.e. video compression via MPEG-2; the system is deliverable to cable) (Para 52, 55, 63).

Wistendahl fails to specifically disclose at a sample rate which is a divisor multiple of plural standard playback rates.

Sabat discloses wherein said video linking system samples said video content

at a sample rate which is a divisor multiple of plural standard playback rates (abstract).

It would have been obvious to one of skill in the art to include Sabat's video linking system samples said video content at a sample rate which is a divisor multiple of plural standard playback rates with the method of Wistendahl because discloses the use of MPEG-2 compression standard to compress the video frames, where MPEG compression is used when clustering frames to reduce bandwidth.

One of skill in the art would have been motivated to include Sabat's video linking system samples said video content at a sample rate which is a divisor multiple of plural standard playback rates with the method of Wistendahl for the benefit of improving frame transmission.

Claims 2 and 20, Wistendahl discloses wherein said video linking system samples said video content at a sample rate (Para 51, 52).
Wistendahl fails to disclose sampling video content at a sample rate of a divisor multiple of 30 frames per second and 12 frames per second, which Sabat discloses (abstract; p. 343, col. 1, sec. 3.3 "smoothing… at 3 frames"; p. 343, col. 2, Para 4).

It would have been obvious to one of skill in the art to include Sabat's sample rate which is a divisor multiple of 30 frames per second and 12 frames per second with the method of Wistendahl because discloses the use of MPEG-2 compression when clustering

frames to reduce bandwidth, which Sabat suggests clustering with 2, 3, and 6 frames, where 3 is a divisor of both 30 and 12.

One of skill in the art would have been motivated to include Sabat's sample rate which is a divisor multiple of 30 frames per second and 12 frames per second with the method of Wistendahl for the benefit of improving frame transmission.

Claims 3 and 21, Wistendahl discloses clustering frames (Para 51, 52).
Wistendahl fails to disclose said sample rate is at least 3 frames per second, which Sabat discloses (abstract; p. 343, col. 1, sec. 3.3 "smoothing… at 3 frames"; p. 343, col. 2, Para 4).

It would have been obvious to one of ordinary skill in the art at the time of invention to include Sabat's rate is at least 3 frames per second with the method of Wistendahl because Wistendahl discloses clustering of frames using a statistical method is known, wherein clustering is performed over a number of sequential frames, for example 3.

One of skill in the art would have been motivated to include Sabat's rate is at least 3 frames per second with the method of Wistendahl for the benefit of improving frame transmission.

Claim 4, Wistendahl discloses wherein said video linking system is configured to identify segment breaks in said video content (Para 51).

Claim 11 and 22, Wistendahl discloses a video playback application for playing back video content and said linked video file (Para 75) wherein said video playback application is configured to (i) determine if locations selected by a pointing device during playback of the video content correspond to said selected pixel object and (Para 76) (ii) provide a link to a corresponding data object when said selected location corresponds to one of said selected pixel object (Para 76, 29, 33).

Claims 13 and 23, Wistendahl discloses wherein said video linking system samples said video content at a sample rate of a divisor multiple of NTSC and PAL frame rates (Para 52, 55).

Claims 14 and 24, the rationale as applied in the rejection of claim 2 applies herein.

Claims 15 and 25, the rationale as applied in the rejection of claim 2 applies herein.

Claims 16 and 26, Wistendahl discloses wherein said video linking system samples said video content at a sample rate of a divisor multiple of NTSC and movie frame rates (Para 52, 55, 62).

Claims 17 and 27, Wistendahl discloses wherein said video linking system clusters the sampled video content with plural frames per cluster (Para 51, 52) as does Sabat (abstract; p. 343, col. 1, sec. 3.3 “smoothing… at 3 frames”; p. 343, col. 2, Para 4).

Independent claim 19, the claim is similar in scope to claim 1. Therefore the rationale as applied in the rejection of claim 1 applies herein.

Independent claim 29, the claim is similar in scope to claim 1. Therefore the rationale as applied in the rejection of claim 1 applies herein.

Wistendahl discloses said video linking system clustering the sampled video content with plural frames per cluster (Para 51), as does Sabat (abstract; p. 343, col. 1, sec. 3.3 “smoothing… at 3 frames”; p. 343, col. 2, Para 4).

3. Claims 5, 18 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wistendahl in view of Sabat as applied to claims 1 and 19, above, and further in view of Toklu, US 6549643.

Claim 5, Wistendahl discloses determining segment breaks based on an attribute of the frame (Para 51-53).

Wistendahl fails to disclose said segment breaks are determined by determining the median average pixel values for a series of frames and comparing changes in the pixel values relative to the median average and indicating a segment break when the change in pixel values represents at least a predetermined change relative to the median average.

Toklu teaches determining median average pixel values for a series of frames by showing computing an average of an absolute pixel-based intensity difference between consecutive frames in each segment, and for each segment, computing a cumulative sum of the average of the absolute pixel-based intensity differences for the corresponding frames of the segment. (Col 3, lines 61-67) Toklu also teaches comparing changes in pixel values relative to median average by explaining selecting the first frame in each motion activity segment of a given segment frame if the cumulative sum of the average of the absolute pixel-based intensity differences for the frames of the given segment does not exceed a first predefined threshold. (Col 4, lines 1-5) Lastly, Toklu teaches indicating a segment break when the change in pixel values

represents at least a predetermined change relative to the median average by showing selecting a predefined number of key-frames in the given segment uniformly, if the cumulative sum of the average of the absolute pixel-based intensity differences for the frames of the given segment exceeds the first predefined threshold. (Col 4, lines 5-9) It should be noted that a key-frame is defined in the art to be a frame used to indicate the beginning or end of a change made to the signal and therefore an implied segment break.

It would have been obvious to one of ordinary skill in the art to include determining the average pixel values for a series of frames, comparing changes in pixel values relative to the average and indicating a segment break when the change in pixel values represents at least a predetermined change relative to the median average as taught by Toklu with the method of Wistendahl in order to measure dissimilarity of frames based on frame differences. (Col 3, lines 60-62)

One of ordinary skill in the art would have been motivated to include the teachings of Toklu with the method of Wistendahl for the benefit of selecting key-frames from video data. (Col 3, lines 51-59)

Claims 18 and 28, Wistendahl discloses a pixel object tracking system (Para 53) which includes a processor which automatically tracks the selected pixel object in other frames (Para 51-53), said pixel object tracking system including a system for automatically determining changes in the characteristics of said pixel object (Para 51).

Wistendahl fails to disclose automatically determining changes in the characteristics of said pixel object based upon changes in lighting and automatically compensating based upon those changes, which Toklu discloses (Col 3, lines 61-67)

It would have been obvious to one of skill in the art to include automatically determining changes in the characteristics of said pixel object based upon changes in lighting and automatically compensating based upon those changes as taught by Toklu with the method of Wistendahl because Wistendahl discloses using statistical comparisons to track object motion, where Toklu uses changes in lighting as an exemplary statistical comparison (col. 3, ll. 45-60).

One of ordinary skill in the art at the time of invention would have been motivated to include automatically determining changes in the characteristics of said pixel object based upon changes in lighting and automatically compensating based upon those changes as taught by Toklu with the method of Wistendahl for the benefit of minimizing the number of key-frames needed for an efficient visual summary, thereby improving performance.

Response to Arguments

4. Applicant's arguments filed 5/8/09 have been fully considered but they are not persuasive.

Applicant argues Wistendahl fails to disclose two separate files, a pixel object file and a data object file, which are not embedded in the sequence of frames.

In response, Wistendahl discloses an IDM program that is authored by multimedia program software (Para 47, 48). The IDM program references an N Data file and another file linked to the N Data file (Para 33). The N Data file defines coordinates of "hot spots" in frames of a video sequence (Para 32). Therefore Wistendahl's N Data file corresponds to the claimed "pixel object file". The other file linked to the N Data file is representative of the claimed "data object file" as the linked file corresponds to the pixel object, e.g. "hot spot", as an anchor for hyperlinks (Para 33). Wistendahl additionally teaches neither the N Data file, e.g. the pixel object file, not the other file linked to the N Data, e.g. the data object file, are embedded in the sequence of frames (Para 32, 35, 58). Therefore, the rejection in view of Wistendahl is maintained.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHANTE HARRISON whose telephone number is (571)272-7659. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on 571-272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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